WINTHEMIA CITHERONIAE, NEW SPECIES, WITH NOTES ON THE CORRECT NAME OF W. CECROPIA

(DIPTERA, LARVAEVORIDAE)

By CURTIS W. SABROSKY, *Bureau of Entomology and Plant Quarantine, United States Department of Agriculture*

The present paper contains the description of a new species of *Winthemia* reared from the pupae of the regal moth, *Citheronia regalis* (F.), and a discussion of the correct name of its closest relative, *Winthemia cecropia* (Riley).

I am indebted to Dr. A. N. Tissot, of the University of Florida, for permission to deposit the type of the new species in the United States National Museum; to Dr. Pedrito Silva, entomologist of the Instituto de Cacau da Bahia, Brazil, for the loan of a reared series of *Promasipoda pinguioides* Townsend, and to Miss E. I. McDaniel, Department of Entomology, Michigan State College, for the loan of a reared series of *W. cecropia*.

Winthemia cecropia (Riley)

Exorista cecropia Riley, 1870, Amer. Ent. 2: 101 (brief description; considered a variety of *E. militaris* Walsh).

Exorista leucaniae Kirkpatrick var.; Riley, 1870, Second Missouri Rpt., pp. 50-51 (mention, though unnamed, as a variety of *leucaniae*, bred from cecropia larva).

Exorista leucaniae var. *cecropiae* Riley, 1872, Fourth Missouri Rpt., pp. 108-109 (description, essentially the same as Riley, 1870); Riley, 1881, Gen. Index Missouri Rpts., p. 60.

Exorista cecropiae Riley; Osten Sacken, 1878, Catalogue Diptera N. Amer., p. 151.

Winthemia cecropiae Reinhard, 1931, U. S. Natl. Mus. Proc. 79 (art. 20): 34-35.

Exorista platysamiae Townsend, 1892, Amer. Ent. Soc. Trans. 19: 288.

Reinhard considered that *cecropiae* (*seu cecropia*) Riley was a *nomen nudum* and described the species as new from one of Riley's original specimens in the National Museum. I believe that the name must technically be credited to Riley, however, for even though the latter's description is admittedly inadequate, some descriptive matter was given and the name was consequently validated. To argue that it was not would bring one to the fact that Coquillett cited "*Exorista cecropiae* Riley MS" under *Winthemia quadripustulata* (F.). If there were no previous validation, under the Rules the name *cecropiae* would have to be considered as validated by Coquillett by citation in synonymy under quite a different species. The type of *platysamiae* Townsend cannot be located, but it is probably the same species that Riley had, as Townsend has maintained (1936, Manual, v. IV, p. 203).

Winthemia cecropia is characterized principally by the absence of densely matted patches of hairs on the underside of abdominal segments III and IV (though the hairs are fine and close together, and sometimes appear weakly matted on the fourth segment); front relatively broad, width at vertex 0.28 times the width of the head; frontal vitta obviously wider than a parafrontal, about 1.6 times; parafacial hairs coarse, fewer in number than in *citheroniae*, and not extending below the level of the uppermost facial bristle; middle tibia anterolaterally with one strong and two smaller bristles; claws and pulvilli short, at most subequal to the length of the distal tarsal segment. Though I have seen only males of *cecropia*, I believe that the tibial and tarsal characters are common to both sexes, judging from *citheroniae*, but the others are sexually dimorphic in *citheroniae* and will have to be checked for that in other species.

The presence or absence in the males of densely matted patches of hairs on the undersides of abdominal segments III and IV has usually been considered one of the significant differences between species of *Winthemia*, and indeed they often appear to be very characteristic. Reinhard (1931) has used the character as the primary division in his key to the males of the genus. I do not question its general usefulness, for there is a great difference in appearance between species with dense black mats of numerous, closely placed hairs and other species without matted hairs, in which the ventral surfaces of segments III and IV are the same as on the preceding segments, the hairs stouter and more widely separated at their bases.

In some border-line cases, however, of which *W. cecropia* is one, it is impossible to say that distinct mats of hairs are present and yet the hairs in these positions are long, fine and set closer together than usual, and sometimes even slightly matted together at the tips. In the type of *cecropia*, the third segment shows no sign of matting, though the hairs are fairly numerous and fine, while the fourth segment has a small area in which the tips of the hairs are matted together. On a specimen of *cecropia* (Harrisburg, Pa. May 20, 1908, "ex *Samia cecropia*"), in which the hairs on segment IV are fine, close and numerous, but not matted, it was easy to demonstrate that a little water applied with a camel's-hair brush would cause a certain degree of matting where the hairs were sufficiently close together. There is such a great difference between *cecropia* and *citheroniae*, however, that moisture conditions alone would not cause any specimens of the former to be confused with the latter. In some other cases, it is important to note that a certain amount of confusion may arise in interpreting the character.

An interesting variation was noted in a series of 10 males reared from cecropia larvae at East Lansing, Mich., May 25, 1932 [Michigan State Coll. Colln.]. Though males of *W. cecropia* normally lack proclinate orbital bristles, two specimens have one well-developed pair, and one male had two bristles on the left side and one on the right.

Winthemia citheroniae, new species

A *Winthemia* in the sense of Reinhard (1931) and Curran (1934), close to *W. cecropia* and agreeing with the description of the latter (Reinhard, 1931, pp. 34-35) except in the following particulars:

Male.—Width of the front at the vertex 0.23-0.24 times the width of the head; abdominal segments III and IV ventrally with large and densely matted patches of long black hair; middle tibia anterodorsally with only one bristle, which is large and strong; legs black and scutellum predominantly so, but the apparent difference in color may be due to the condition of the type; otherwise as described for *cecropia*. In addition, the parafacials are densely and finely haired, with an estimated 60 hairs on each side, the hairs continuous from the lower frontal bristle to a level opposite the vibrissa and separated only by a narrow groove from being continuous with the hairs of the cheek. The frontal vitta is only slightly wider than a parafrontal, by 1.1-1.2 times, the inner genital forceps are slightly broader than in *cecropia*, strongly keeled behind, and the distal end of the aedeagus is strongly flared.

Female.—Like the male, except for the following secondary sexual characters: Mesonotum and scutellum more heavily pollinose, and accordingly lighter in color and less shining, than in the male; width of the front at the vertex 0.3 times the width of the head; no median marginal bristles on the first abdominal segment but one strong pair on the second; no areas of matted hairs ventrally on segments III and IV; parafacials as finely but not as densely haired as in the male, with 30-40 hairs in about three irregular rows.

Length, males, 11.5-13 mm.; females, 10-11 mm.

Holotype male, allotype, and 14 paratypes (7 ♂, 7 ♀). Gainesville, Fla., November 17, 1946 (A. N. Tissot), from pupae of *Citheronia regalis;* 21 paratypes (10 ♂, 11 ♀), Kensington, Md., October 11, 1946 (Bruce Burdette), from pupae of *Citheronia regalis*. Type No. 58501 in the United States National Museum, deposited through the courtesy of Dr. Tissot. Paratypes in the National Museum and the collection of the Department of Entomology, University of Florida.

The larvae of the Kensington specimens were observed emerging from pupae of *Citheronia regalis* on September 24, and all had pupated by September 26. The adults emerged on October 11.

The species is closely related to *W. cecropia*, much more so than would be indicated by Reinhard's key, where the presence in *citheroniae* of large and dense patches of matted hairs on abdominal segments III and IV will place it in a different group of species. The males of *cecropia* and *citheroniae* have short claws and pulvilli which are not as long as the distal tarsal segment, a feature which distinguishes them from all other known American species of *Winthemia* except the South American *W. xanthocera*. The female sex of *citheroniae* will run easily in Reinhard's key as far as couplet 15, and is definitely unlike any of the remaining species.

The series from Maryland is almost identical with that from Florida. The only difference that can be found from a detailed comparison of both males and females is that the Florida specimens have the hind tibia evenly ciliate anterodorsally, whereas those from Maryland consistently have one slightly stronger bristle about midway in the cilia. When the two series are placed side by side, the specimens from Maryland appear to be a trifle smaller, but this is probably due to the fact that they are slightly teneral. It is possible that the presence of the bristle in the anterodorsal series of cilia on the hind tibia is an indication of a different subspecies or even a species. With only these two series available, however, it is also possible, in the absence of any other differences, that we have here merely a Mendelian character, with two homozygous local populations, or perhaps even siblings, which differ in the presence or absence of the bristle. In view of the generally close resemblance of the two series, the identity of the host, and the reasonably close geographical location, I regard them as representing the same species. Relatively little is known of subspecies in the higher flies, however, and it is always possible that a large amount of material from many localities would show that *Winthemia citheroniae* as treated here is composed of two subspecies.

Variation.—The entire series of 37 specimens was examined for any variation in certain characters commonly used as specific and even by some authors as generic criteria. No variation was found (1) in the presence in both sexes of only one bristle, a strong one, midway on the anterodorsal surface of the middle tibia, (2) in the absence of median marginal bristles on both first and second abdominal segments in the males, and (3) in their absence on the first segment, but the presence of one pair of strong bristles on the second segment, in the females (though four out of 11 from Maryland had only one bristle of the pair present). Considerable variation was found in the males in the presence or absence of a pair of

strong reclinate upper frontal bristles situated opposite the anterior ocellus.

	Florida ♂ ♂	Maryland ♂ ♂
One pair, strong	2	4
Bristle on one side only, either left or right	5	3
None	1	3

In Reinhard's key to males (1931, p. 7), the presence or absence of these stout upper frontals was used in couplet 25 to distinguish several species, but the above notes indicate that the character should be used with caution.

In Townsend's key to the tribe Sturmiini, females of *citheroniae* run fairly well to *Promasipoda*, and can scarcely be distinguished from the holotype female of *P. pinguioides* Townsend, from Pará, Brazil. Fortunately, a long series of the latter species, containing both males and females, shows that the males of *pinguioides* are quite different, having the claws and pulvilli decidedly longer than the distal tarsal segment (nearly 1.6 times as long, on the foreleg), the densely matted hairs in smaller patches on segments III and IV, and typically lacking a pair of strong reclinate upper frontal bristles.

NEW PREY RECORDS IN OXYBELUS

(Hymenoptera, Sphecidae)

During the collecting season of 1947 several female *Oxybelus* were captured on sandy loam in Arlington Co., Virginia, carrying adult flies for provisioning their nests. Inasmuch as these prey records are new it seems worthwhile to record them. I am indebted to C. W. Sabrosky for identification of the Diptera.

Oxybelus bipunctatum Oliv. One female on June 15th with a male muscid, *Hylemyia cilicrura* (Rond.), the seed corn maggot; one female on August 3rd with a male lonchaeid, *Lonchaea nudifemorata* Mall.

Oxybelus quadrinotatum Say. One female on June 15th with a male sarcophagid, *Sarcophaga rapax* Walker.

Oxybelus cressonii Robt. One female on June 15th with a female chloropid, *Thaumatomyia bistriata* (Walker).

The above record extends the range of *O. cressonii* considerably as it was known previously from Illinois, Iowa and Nebraska. The species was moderately common during the first half of June and then was not taken again till August, indicating a partial or complete second generation in this area.

Karl V. Krombein,
Bureau of Entomology and Plant Quarantine